

Oral allergic syndrome after ingestion of custard apple

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Key words: allergy; custard apple; IgE; immunoblotting.

Pollinosis and allergy symptoms after fruit ingestion is frequent. The allergy after vegetable ingestion are heterogeneous ranging from oral allergy

A fruit allergic patient presented several episodes of oral allergy syndrome after ingestion of custard apple.

syndrome, to anaphylaxis but hypersensitivity to custard apple is unusual (1).

A 23-year-old woman presented rhinoconjunctivitis and bronchial asthma for 5 years during the grass pollinization period. She was on *Cupressus arizonica* immunotherapy since 5 months.

Since her childhood, she presented tongue and lip angioedema with blushing and itching on palms after ingestion of different fruits and vegetable including custard apple. The episodes disappeared without treatment. She tolerated contact with latex articles.

Prick tests to common allergens were positive with grass, trees and weed pollen and a commercial latex extract. Prick-prick tests proved positive with melon, kiwi, watermelon, custard apple, banana, courgette, potato and tomato. Total serum immunoglobulin E (IgE) was 986 kU/l. Specific IgE antibodies against latex were 0.56, *Cupressus arizonica* 15, banana 0.98 and melon 1.18.

The IgE-immunoblotting with the patient's serum detected a simple band in tomato and potato of approximately 55 and 35 kDa, respectively. Three high

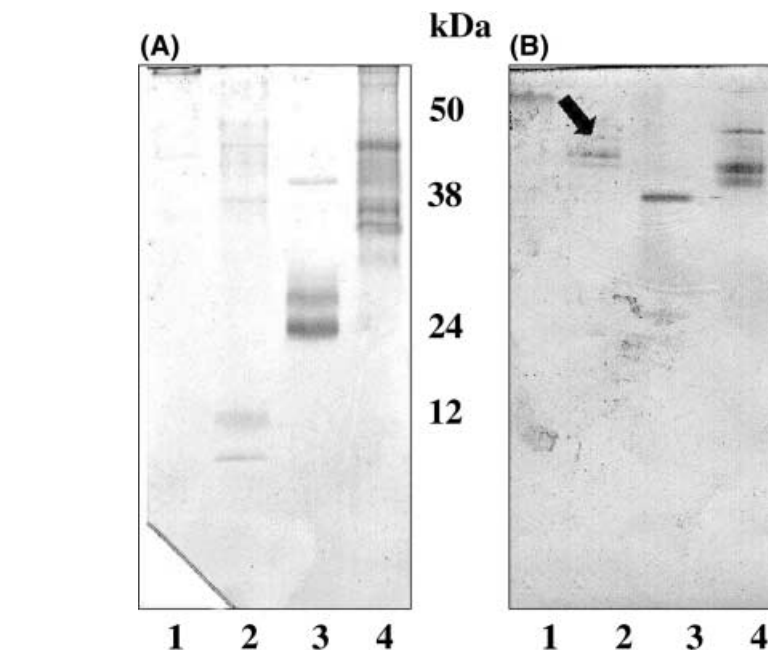


Figure 1. (A) SDS-PAGE with tomato (1), custard-apple (2), potato (3) and avocado (4). (B) IgE-immunoblotting with tomato (1), custard-apple (2), potato (3) and avocado (4). Arrow marks the IgE band detected in custard apple.

molecular weight bands were detected in the avocado extract and one band of 40–45 kDa in custard apple (Fig. 1).

Gonzalo et al. (1) demonstrated the presence of an allergen of around 20–25 kDa in custard apple. Sánchez-Guerrero et al. (2) described the cross-reactivity between custard apple and latex extracts.

Cross-reactivities between latex and fruits have been widely described (3). Most of them are the result of homologous allergens such as chitinases and other pathogenesis-related proteins. This seems to be the case of our patient, who reacted to a high number of fruits and who detected allergens in fruits and vegetables without any clinical relevance such as in potato and in avocado.

The allergen detected by our patient, who only presented oral allergy syndrome, could be equivalent to the 43 kDa allergen previously found by others.

Furthermore, our patient presented sensitization to *C. arizonica*. Cup a1 is a 43 kDa major allergen of *C. arizonica* (4). Therefore, an inhibition assay could demonstrate a cross-reaction between Cup a1 and custard apple but, unfortunately, custard apple is a seasonal fruit that is found in the market only in January and February in Spain.

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IP-10 in atopic dermatitis

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Key words: atopic dermatitis; interferon-gamma-inducible protein-10 (IP-10/CCL10); psoriasis vulgaris; Th1/Th2.

Interferon-gamma (IFN- γ)-inducible protein-10 (IP-10/CCL10), a CXC chemokine, is induced by IFN- γ , and secreted from various cells, such as activated T cells and neutrophils, and is involved in the chemotaxis of activated T cells and monocytes (1).

A recent report showed a higher IP-10 level in patients with type 1 diabetes mellitus than in normal subjects or patients with type 2 diabetes mellitus, suggesting the usefulness of IP-10 as a helper T-cell (Th) 1 marker for a Th1-mediated disease (2).

The development of allergy is associated with the imbalance between Th1 and Th2, and its immuno-regulation is considered to be therapeutically useful. In particular, up-regulated Th2 cell function appears to be involved in allergy, but in the aspect of Th1 cell function, it has not been reported in allergic diseases. This is the first report describing plasma IP-10

levels in patients with atopic dermatitis and those with psoriasis vulgaris.

The subjects were 53 normal controls, 32 patients with atopic dermatitis, and 12 patients with psoriasis vulgaris. Plasma IP-10 level was measured by ELISA (R & D systems, Minneapolis, MN). Patients receiving drugs were excluded. The mean plasma IP-10 level did not differ between the patients with atopic dermatitis: 116 pg/ml (SD 61.2) and the normal controls: 109 pg/ml (45.7), but was significantly higher in the patients with psoriasis vulgaris ($P < 0.001$): 370 pg/ml (83.5).

We previously reported that TARC as a Th2 marker increased in patients with atopic dermatitis (3), and speculated that this increase may be the result of down-regulated Th1 function in these patients compared with normal subjects. Therefore, we presumed that plasma IP-10 level as a Th1 marker, may be lower in patients with atopic dermatitis than in normal subjects. However, in this study, the IP-10 level did not differ between the patients with atopic dermatitis and normal controls, and did not correlate with the severity of the disease. Therefore, these results show that the development of atopic dermatitis may be the result of up-regulated Th2 function rather than down-regulated Th1 function.

Interestingly, the patients with psoriasis vulgaris, who considered a disorder to be Th1 predominant (4), showed a significantly higher IP-10 level than the normal controls or patients with atopic dermatitis. In six patients with psoriasis vulgaris in whom measurement was possible after steroid treatment, the plasma IP-10 level was decreased to the control levels, reflecting the activity of the disorder (pre/post: 319/149 pg/ml, $P < 0.005$).

These results seem to suggest that plasma IP-10 might not be useful marker for atopic dermatitis and the measurement of plasma IP-10 is useful in patients with psoriasis vulgaris.

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Late-type allergy to Ultravist® (iopromid)

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Key words: allergologic workup; cross-reactivity; late-type allergy; nonionic contrast medium.

With the introduction of low-osmolar, nonionic contrast media in the early 1980s, the prevalence of adverse reactions could be significantly reduced (1). Nonetheless, because of the increasingly widespread use of imaging diagnostic procedures, side-effects caused by contrast media represent a serious problem. Adverse drug reactions, classified as immediate and delayed reactions, occur in 5–20% of patients undergoing contrast enhanced examinations (2). However, only a fraction of these reactions is caused by a T-cell mediated late-type allergy to contrast medium

IgE or T-cell mediated allergy to contrast media is rather the exception.

compounds. Estimation of the exact percentage of allergic reactions among delayed adverse drug reactions is difficult because only a minority of patients with contrast medium intolerance are transferred to an allergological unit for performing a complete allergological workup.

We report a 63-year-old woman who developed first a generalized maculopapular and then, upon re-exposure, macular exanthema within 24 h following intravenous application of Ultravist 300® (iopromid) as contrast medium for chest computed tomography (CT) scans. The second exanthema episode occurred despite medication with oral steroids, which were given in order to treat the primary disease, i.e. non-Hodgkin lymphoma. Without specific treatment, the exanthema resolved within a few days. A complete allergological workup including patch, prick and intradermal tests revealed positive reactions for iopromid and the cross-sensitizing substances iopentol and iopamidol starting 24 h following application. Iodine compounds and contrast media compounds (trometamol, Na-Ca EDTA) neither caused immediate-type, nor late-type reactions. Histological examination of biopsy specimen of the affected skin revealed findings consistent with an allergic late-type reaction, i.e. oedema of the upper dermis, perivascular and interstitial lymphohistiocytic infiltration and intact epidermal layer. Based on the clinical, histopathological and skin test findings, a diagnosis of late-type allergy to Ultravist® 300 with cross-sensitization to the other nonionic contrast media Imagopaque® 300 (iopentol) and Solustrast® 300 (iopamidol) was made.

Although it is often supposed that adverse reactions to contrast media are the result of immediate-type or late-type reactions, an immunoglobulin E (IgE) or T-cell mediated allergy to the suspected substance is rather the exception than the rule. Only skin tests or in the case of immediate-type allergy, the detection of specific IgE antibodies can differentiate intolerance reactions from allergic reactions. This differentiation is important as the risk of developing repeated intolerance reactions to contrast medium is

substantially higher for those patients with an allergy.

Interestingly, in the reported case the skin reaction to iopromid occurred despite the medication with oral steroids. Several cases of intolerance reactions to contrast media under medication with antihistamines or corticosteroids have been described in the literature (2, 3). In patients with a prior adverse reaction to contrast medium, the frequency of a breakthrough reaction to peripheral low-osmolar contrast medium injection despite steroid premedication is still calculated to be 12%. Typically, breakthrough reactions are of similar severity to the patient's initial reaction, although they may be more severe. Thus it is important to set strict indications for examinations with radiopaque material for patients who previously had adverse reactions to contrast media. Nevertheless, if contrast enhanced scans are mandatory, corticosteroids and antihistamines should be given for pretreatment. We recommend the administration of prednisone 50 mg orally 13, 7, and 1 h and H1 and H2 antihistamines intravenously 5 min prior to the contrast media infusion.

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Contact allergy to phenylpentanedione

B. M. Hausen

Key words: allergic contact dermatitis; allergic gingivitis; denture; phenylpentanedione; root canal filling material.

A non-atopic woman, 59 years old, was referred to our clinic for swelling, inflammation, redness, pains and pruritus in her mouth during the last 7 months.

The denture material consisting of plastic and metal alloys had

A new allergen in root canal filling material.

been removed recently. A filling of the root canals with a special filling material had to be stopped because of a severe gingivitis and unbearable pains at the site of the jaw.

Epicutaneous tests were performed with the European standard, two commercial dental series and an own dental series consisting of 43 different acrylic monomers and further inhibitors, stabilizers, initiators and dyes. Additional eight components were kindly provided by the manufacturer of the root canal filling material. Readings were taken after 24 and 72 h. As two of the eight components of the root canal filling material were unknown as allergens, three different dilutions were prepared (30, 10, 1% in petrolatum) and applied to the own skin. When the 10% dilution showed no irritant reaction, five further controls (including three atopics) were made to corroborate the safety of this concentration.

At 72 h, the patient reacted to 14 different acrylic monomers (7 × + + +, 6 × + +, 1 × +) and to palladium

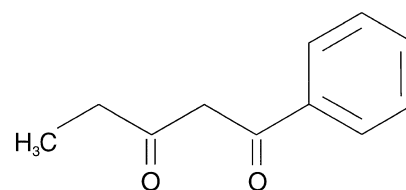


Figure 1. Structure of 1-phenylpentane-1,3-dione, a crosslinker in the root canal filling material.

(+ +). Only one of the eight components of the root canal filling material became positive (+ + + reaction). The reaction persisted for more than 1 week. The manufacturer disclosed this substance as 1-phenylpentane-1,3-dione (Fig. 1) (CAS: 5331-64-6; MW 176.2146). In the canal filling material it functions as a crosslinker.

To the best of the author's knowledge this compound has not yet been described as a contact allergen. The manufacturer too stated that no suspicion or report on allergic reactions to phenylpentanedione has been submitted

to him, although the root canal filling material has been marketed since more than 40 years.

Thorough examination of the market led to the discovery of a dental company that still produces dentures in the old-fashioned way by using India rubber. Applying thin scrapings from a solid sample of India rubber for 48 h to the skin of the patient, stripped before 10 times with an adhesive tape produced no reactions in the 72 and 96-h readings. This new denture material was fitting well which finally brought relief from the symptoms to the patient.

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